

### **3.3 Ecology and Wetlands**

#### **3.3.1 Existing Conditions**

Site evaluations for vegetation, wildlife and habitat potential were conducted by Bruce Friedmann and Steve Marino of Tim Miller Associates, Inc., during preparation of the Minisceongo Park DEIS. Wetlands were delineated by Ralph Huddleston of Carpenter Environmental Associates, Inc. in November 2001 and in June 2005.

##### Vegetative Communities and Plant Species

The majority of the 53.3 acre project site exists as a mosaic of bare ground or sparsely vegetated flat and mounded areas of rock, earth or fill. There are two dominant vegetative community types on the remaining acreage of the site. An aerial photograph showing the existing vegetation on the project site and adjacent areas in 2004 is provided in Figure 3.3-1. Since 2004, the area that had been mined has been subjected to additional disturbance, since the site has been used as a staging area for construction of the Millennium Pipeline. A list of observed plant species on the project site is included in Table 3.3-1.

The New York State Department of Environmental (NYSDEC) publication "Ecological Communities of New York State" (2002)<sup>1</sup> provides generalized descriptions and classifications of the wide array of different ecological communities found within New York State. Based on the vegetative descriptions in that publication, approximately 38.9 acres of the project site is classified "Successional Old Field" due to effects of prior mining activities and the present domination of forbs and grasses throughout most of the parcel.

The project site also includes approximately 13.4 acres of wetlands, including the channel and banks of a segment of the South Branch (NYSDEC Waterbody Index No. H-43-1-10) Minisceongo Creek and associated wooded/shrub land. These wetlands have been characterized as "Hardwood Floodplain Forests." These wetland areas range from stands of emergent vegetation, primarily common reed (*Phragmites australis*) to thinly forested areas of second growth trees and shrubs dominated by willows (*Salix* spp.), red maple (*Acer rubrum*), ash (*Fraxinus* spp.), hickories (*Carya* spp.) and sycamore (*Platanus occidentalis*), with an undergrowth including dogwoods (*Cornus* spp.) and Japanese barberry (*Berberis thunbergii*).

One acre of the project site is developed with an automotive repair garage and accessory parking.

##### *Successional Old Field*

Trees in these areas are present only as isolated individuals or small stands, primarily consisting of poplars (*Populus* spp.) and black locust (*Robinia pseudo-acacia*), pioneer species that provide no continuous areas of forested cover. The herbaceous cover includes mugwort (*Ambrosia vulgaris*), ragweed (*Ambrosia artemisiifolia*), goldenrods (*Solidago* spp.), wild carrot (*Daucus carota*), asters (*Aster* spp.), common evening primrose (*Oenothera biennis*), and several field grasses. Along the south, east, and north boundaries of the old

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<sup>1</sup> Edinger, G.J. et al, eds. 2002. Ecological Communities of New York State. Second Edition. New York Natural Heritage Program, NYSDEC. Albany, NY. 134 pp.

field area is a generally continuous but narrow (less than 50 foot wide) band of forested regrowth. This growth is comprised of a diverse community of shrubs and trees that exist as roadside vegetation along the access ramps and roads that border the property.

Historic records of site vegetation are provided in Appendix B of the DEIS. Table 3.3-1 lists the trees, shrubs, forbs and grasses that were identified on the site during field visits in Summer/Fall, 2005.

Table 3.3-1 Project Site Vegetation			
Common Name	Scientific Name	Common Name	Scientific Name
Hickory	<i>Carya</i> spp.	Brambles	<i>Rubus</i> spp.
Eastern red cedar	<i>Juniperus virginiana</i>	Morrow's honey suckle	<i>Lonicera morrowii</i>
Black willow	<i>Salix nigra</i>	Smooth sumac	<i>Rhus glabra</i>
Ashleaf maple	<i>Acer negundo</i>	Japanese barberry	<i>Berberis thunbergii</i>
Sugar maple	<i>Acer saccharum</i>	American hackberry	<i>Celtis occidentalis</i>
Crabapple	<i>Malus</i> spp.	Northern bayberry	<i>Myrica pennsylvanica</i>
Eastern cottonwood	<i>Populus deltoides</i>	Autumn-olive	<i>Elaeagnus umbellata</i>
Green ash	<i>Fraxinus pennsylvanica</i>	Burmarigold	<i>Bidens</i> spp.
Flowering dogwood	<i>Cornus florida</i>	Ox-eye daisy	<i>Chrysanthemum leucanthemum</i>
Black locust	<i>Robinia pseudoacacia</i>	Mugwort	<i>Artemisia vulgaris</i>
Grey birch	<i>Betula populifolia</i>	Multiflora rose	<i>Rosa multiflora</i>
Red maple	<i>Acer rubrum</i>	New York aster	<i>Aster novae-belgii</i>
Red-osier dogwood	<i>Cornus stolonifera</i>	Curly dock	<i>Rumex crispus</i>
Quaking aspen	<i>Populus tremuloides</i>	Red clover	<i>Trifolium pratense</i>
Pin oak	<i>Quercus palustris</i>	Goldenrod species	<i>Solidago</i> spp.
Red oak	<i>Quercus rubra</i>	Purple loosestrife	<i>Lythrum salicaria</i>
Catalpa	<i>Catalpa bignonioides</i>	Pennsylvania smartweed	<i>Polygonum pennsylvanicum</i>
Black cherry	<i>Prunus serotina</i>	Common mullein	<i>Verbascum thapsus</i>
Big tooth aspen	<i>Populus grandidentata</i>	Virginia creeper	<i>Parthenocissus quinquefolia</i>
Willow	<i>Salix</i> spp.	Common evening primrose	<i>Oenothera biennis</i>
American elm	<i>Ulmus americana</i>	Self-heal	<i>Prunella vulgaris</i>
White oak	<i>Quercus alba</i>	Queen Anne's Lace	<i>Daucus carota</i>
White mulberry	<i>Morus alba</i>	Bird's foot trefoil	<i>Lotus corniculatus</i>
White ash	<i>Fraxinus americana</i>	Oriental bittersweet	<i>Celastrus orbiculatus</i>
Bebb willow	<i>Salix bebbiana</i>	English plantain	<i>Plantago lanceolata</i>
Sycamore	<i>Platanus occidentalis</i>	Dogbane	<i>Apocynum</i> spp.
Tree of Heaven	<i>Ailanthus altissima</i>	White snakeroot	<i>Eupatorium rugosum</i>
Weeping willow	<i>Salix babylonica</i>	Grape	<i>Vitis</i> spp.
Tussock sedge	<i>Carex stricta</i>	Spotted knapweed	<i>Centaurea maculosa</i>
Woolly grass bulrush	<i>Scirpus cyperinus</i>	Heath aster	<i>Aster ericoides</i>
Common reed	<i>Phragmites australis</i>	Coltsfoot	<i>Tussilago farfara</i>
Chicory	<i>Cichorium intybus</i>	Ragweed	<i>Ambrosia artemisiifolia</i>
Sedge species	<i>Carex</i> spp.	Slender gerardia	<i>Gerardia tenuifolia</i>
Barnyard grass	<i>Echinochloa muricata</i>	Black-eyed Susan	<i>Rudbeckia hirta</i>
Moth mullein	<i>Verbascum blattaria</i>	Common plantain	<i>Plantago major</i>
Climbing false buckwheat	<i>Polygonum scandens</i>	Common milkweed	<i>Asclepias syriaca</i>

Source: Tim Miller Associates, Inc., 2005.

### Floodplain Forest and Wetlands

The wooded and shrub wetlands are located within the western portion of the project site on either side of the channel of the South Branch Minisceongo Creek. These wetlands contain a mixture of species including wetland and upland vegetation such as willows, red maple, American elm (*Ulmus americana*), cottonwood (*Populus deltoides*), green ash (*Fraxinus pennsylvanica*), multi-flora rose (*Rosa multiflora*) and common reed (*Phragmites australis*).

The "Floodplain Forest" community type generally maintains a 50 percent or greater closed tree canopy with a moderate amount of understory and herbaceous vegetation. Wooded wetlands are typically comprised of second growth vegetation with many of the trees having an 8-16 inch diameter at breast height (DBH, or approximately at a height of 4 1/2 feet). In this size class, trees would be approximately 30 - 50 years old.

The channel of the South Branch Minisceongo Creek where it crosses the site exists as an unconfined riverine community, characterized as very low gradient main channel streams with meanders, high levee banks and typically low flows of temperate and usually turbid water. South Branch Minisceongo Creek is a Class C waterbody in the NYSDEC stream classification system. NYS Environmental Conservation Law (Title 6, Chapter X Section 701.9) defines the best usage of Class C waters as fishing, and further states that water conditions are conducive to both the survival and propagation of game fishes. The water quality is suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

### Wildlife

#### *Successional Old Field*

This community type includes only limited areas of shelter or browse for larger mammals such as deer, fox or coyote. Lack of a significant understory and thickets limits its use as cover for some smaller ground-based creatures. Whitetail deer were observed in motion or bedding on the field areas of the property during site visits. It is likely that deer travel through the wooded and wetland portions of the site and use the open areas for foraging as well as bedding.

#### *Wooded and Shrub Wetlands*

Deer scat and beaver-felled trees were observed in the wooded wetlands. These wetlands are also likely to provide habitat for a number of other animal species that are listed in Table 3.3-2. In addition to the two habitat types listed above, the project site and surrounding properties also contain limited areas of "edge habitat" that occur at the interface of different habitat types (i.e. between woodlands and landscaped areas). These edge habitats are often utilized by foraging wildlife species such as deer, especially during the early morning and evening hours. Table 3.3-2 includes a list of actual observations and expected occurrences of wildlife species on the project site.

Based on field observations, mammals that may regularly occur on the project site are likely to include whitetail deer, gray squirrel, eastern chipmunk, raccoon, opossum, deer mouse, and woodchuck. Dominant avian species are likely to include resident songbirds (chickadee, nuthatch, vireos, cardinals, warblers, etc.), downy woodpecker, blue jay, crow, mourning dove, and mockingbird. All of the dominant species at the site are considered to be highly mobile and generally adaptable to the existing suburban setting of the region. The observed wildlife population densities at the project site are considered to be in the low to normal range. This is attributable to the small size, isolated nature, and predominantly low quality second growth vegetation (predominantly poplar, willow and black locust trees) at the site which limits the diversity and value of the on-site wildlife habitat. The medium density residential suburban setting of the property and its proximity to the Palisades Parkway

corridor and commercial developments along US Route 202 also contribute to an expectation of low to moderate wildlife densities.

Table 3.3-2 Project Site Wildlife			
Common Name	Scientific Name	Common Name	Scientific Name
<b>Mammals</b>		<b>Birds (Continued)</b>	
Whitetail deer*	<i>Odocoileus virginianus</i>	Kingfisher	<i>Ceryle</i> spp.
Raccoon	<i>Procyon lotor</i>	Eastern kingbird	<i>Tyrannus tyrannus</i>
Opossum	<i>Didelphis virginiana</i>	Woodcock	<i>Scolopax minor</i>
Gray squirrel	<i>Sciurus carolinensis</i>	Flycatchers	<i>Empidonax</i> spp.
Striped skunk	<i>Mephitis mephitis</i>	Eastern phoebe	<i>Sayornis phoebe</i>
Beaver*	<i>Castor canadensis</i>	Easter wood pewee	<i>Contopus virens</i>
Woodchuck*	<i>Marmota monax</i>	Bank swallow	<i>Riparia riparia</i>
<b>Reptiles</b>		Brown creeper	<i>Certhia americana</i>
		Veery	<i>Catharus fuscescens</i>
Box turtle	<i>Terrapene carolina</i>	Hermit thrush	<i>Catharus guttatus</i>
Painted turtle*	<i>Chrysemys picta</i>	Killdeer	<i>Charadrius vociferus</i>
Garter snake	<i>Thamnophis sirtalis</i>	Wood thrush	<i>Hylocichla mustelina</i>
Wood turtle	<i>Coluber constrictor</i>	Ovenbird	<i>Seiurus aurocapillus</i>
<b>Amphibians</b>		Warbler	<i>Dendroica</i> spp.
		Red-eyed vireo	<i>Vireo olivaceus</i>
Two-lined salamander	<i>Eurycea bislineata</i>	Wren*	<i>Troglodytes</i> spp.
Spring peeper	<i>Hyla crucifer</i>	Great blue heron*	<i>Ardea herodias</i>
American toad	<i>Bufo americanus</i>	Turkey vulture*	<i>Cathartes aura</i>
Northern cricket frog	<i>Acris crepitans</i>	Blue jay	<i>Cyanocitta cristata</i>
Pickerel frog	<i>Rana palustris</i>	Gnatcatcher	<i>Poliopotila</i> spp.
Bullfrog	<i>Rana catesbeiana</i>	Common yellowthroat	<i>Geothlypis trichas</i>
Green frog	<i>Rana clamitans</i>	Eastern screech owl	<i>Otus asio</i>
Wood frog	<i>Rana sylvatica</i>	Great horned owl	<i>Bubo virginianus</i>
<b>Birds</b>		Robin*	<i>Turdus migratorius</i>
		Cooper's hawk	<i>Accipiter cooperii</i>
Ruffed grouse	<i>Bonasa umbellus</i>	Mourning dove*	<i>Zenaida macroura</i>
Black duck*	<i>Anas rubripes</i>	Grosbeak	<i>Hesperiphona</i> spp.
Wood duck*	<i>Aix sponsa</i>	Pileated woodpecker	<i>Dryocopus pileatus</i>
Mallard*	<i>Anas platyrhynchos</i>	Yellow-billed cuckoo	<i>Coccyzus americanus</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>	Canada goose*	<i>Branta canadensis</i>
* Direct or indirect observation at the project site. This list includes species observed at the project site and other species reported observed at Mount Ivy County Park. Source: Tim Miller Associates, Inc., 2005.			

The South Branch Minisceongo Creek as it crosses the site is a sluggish waterbody draining a watershed which consists primarily of residential development, hardwood forests, hardwood swamps and broad wetlands of emergent vegetation. The NYS DEC last sampled this drainage in July, 1936, when the creek waters were still in use for gravel washing operations associated with the local mines. Six fish species were captured by their sampling effort. The fish community in the creek would likely include other representatives of warmwater species common in similar drainages of the Lower Hudson River basin such as

sunfishes, catfishes, and minnows (Table 3.3-3). Presently, the NYS DEC includes the main branch of Minisceongo Creek in its Spring trout stocking program with plantings of brown trout (*Salmo trutta*) in the portions of the drainage that originate from Lake Welch in Harriman State Park. The main branch is located 2.5 miles downstream of the site.

<b>Table 3.3-3                      Potential Resident and Migratory Fish-                      South Branch Minisceongo Creek</b>		
Common Name	Scientific Name	Collected by NYS DEC in 1936
Brown bullhead	<i>Ictalurus nebulosus</i>	U
White sucker	<i>Catostomus commersoni</i>	
Largemouth bass	<i>Micropterus salmoides</i>	
Chain pickerel	<i>Esox americanus</i>	U
American eel	<i>Anguilla rostrata</i>	
Creek chub	<i>Semotilus atromaculatus</i>	
Comely shiner	<i>Notropis amoenus</i>	
Creek chubsucker	<i>Erimyzon oblongus</i>	U
Common shiner	<i>Notropis cornutus</i>	U
Bridle shiner	<i>Notropis bifrenatus</i>	
Golden shiner	<i>Notemigonus crysoleucas</i>	U
Blunt nose minnow	<i>Pimephales notatus</i>	
Fathead minnow	<i>Pimephales promelas</i>	
Banded killfish	<i>Fundulus diaphanus</i>	
Red breast sunfish	<i>Lepomis auritus</i>	
Pumpkinseed	<i>Lepomis gibbosus</i>	
Bluegill	<i>Lepomis macrochirus</i>	U
Note: The above list is based on NYS DEC 1936 sampling records and fish species association information provided in: Smith, C.L., 1985. The Inland Fishes of New York State. New York State Department of Environmental Conservation, New York.		

Protected Habitats, Natural Communities or Plant/Animal Species

Correspondence from the United States Fish and Wildlife Service (US FWS)<sup>2</sup> lists no habitat in the project area as currently designated or proposed “critical habitat” in accordance with the Endangered Species Act. Correspondence from the NYS DEC Natural Heritage Program (NHP) identifies the existence of an unlisted community type, Rocky Summit Grassland, within a one mile radius of the site. Rocky Summit Grassland is a community type defined by grasslands which occur on rocky summits and slopes sparsely wooded by Eastern red cedar (*Juniperus virginiana*) and red oak (*Quercus rubra*)<sup>3</sup>. The project site does not contain any habitat consistent with this community type.

The US FWS letter indicates that there is potential for two Federally listed species to occur within the project area. These species are the Federally- and New York State-listed endangered Indiana bat (*Myotis sodalis*) and the Federally-listed threatened and State-listed

<sup>2</sup> David Stilwell, US FWS, Cortland, NY, letter dated October 18, 2005.

<sup>3</sup> Edinger, G.J. et al, eds. 2002. Ecological Communities of New York State. Second Edition. New York Natural Heritage Program, NYSDEC. Albany, NY. 134 pp.

endangered bog turtle (*Clemmys muhlenbergii*). This letter is included in Appendix B of the DEIS. The DEIS reported that use of the site for the Indiana Bat is extremely low, and the site does not contain habitat to support bog turtles.

The NHP database identified one state-listed animal species recorded within the vicinity of the project site, a petaltail dragonfly, the gray petaltail (*Tachopteryx thoreyi*). The NHP database also identified historical findings for one state-listed plant species, Willdenow's sedge (*Carex willdenowii* var. *willdenowii*), within the immediate vicinity of the project site. The NHP letter is included in Appendix B of the DEIS. These species were not observed on the project site.

### Wetlands

As described in the DEIS, wetlands were delineated in accordance with both the US Army Corps of Engineers (ACOE) as well as the New York State Department of Environmental Conservation guidelines. The Town of Haverstraw Town Code has freshwater wetlands protection provisions which incorporate by reference Article 24 of the NYS Environmental Conservation Law.

The National Wetland Inventory maps show the general configuration, location and category of potential wetlands to be found within a given area of coverage. The NWI wetland map for Thiells, New York (on a 7.5 minute USGS topographic base) includes the project site and adjacent lands (Figure 3.3-2). The NWI map shows seven distinct wetland systems in or extending upon the project site. The largest of these are three adjacent areas of Palustrine Emergent or Scrub-Shrub wetlands identified in the western portion of the site along the South Branch Minisceongo Creek. These areas are identified as persistent wetlands which are temporarily or seasonally flooded. A small area of Palustrine Semi-permanently Flooded and Excavated wetland is shown spanning the north-central portion of the site. The remaining three NWI identified wetlands were small Palustrine Emergent or Scrub-Shrub Seasonally Flooded wetlands shown in the eastern portion of the site.

The NYSDEC is responsible for mapping larger freshwater wetlands that are 12.4 acres in size or greater, or some smaller wetlands that are of unusual local importance (Environmental Conservation Law, Article 24). The NYSDEC Freshwater Wetlands Map for Thiells, New York covers the site area (Figure 3.3-3). The NYSDEC Freshwater Wetlands Map identifies a single wetland (TH-13) extending onto the western portion of the site.

Wetlands were delineated on the site in June 2005, by CEA, Inc. The locations of these delineated wetlands are shown on Figure 3.3-4. In total, there are approximately 13.4 acres of wetlands on the project site. The wetlands are described in detail in the DEIS. An assessment of the on-site wetlands with respect to the nine freshwater wetland benefits identified in Article 24 of the NYS Environmental Conservation Law is provided in Table 3.3-4.

Table 3.3-4 Assessment of On-site Freshwater Wetland Benefits			
Freshwater Wetland Benefit	Wetland A	Wetland B	Wetland C
1) Flood and storm control by the hydrologic absorption and storage capacity of freshwater wetlands.	High	Medium	Low
2) Wildlife habitat by providing breeding, nesting and feeding grounds and cover for many forms of wildlife, wildfowl and shorebirds, including migratory wildfowl and rare species such as the bald eagle and osprey.	High	Low	Low
3) Protection of subsurface water resources and provision for valuable watersheds and recharging groundwater supplies.	High	Medium	Low
4) Recreation by providing areas for hunting, fishing, boating, hiking, bird watching, photography, camping and other uses:	Medium	N/A	N/A
5) Pollution treatment by serving as biological and chemical oxidation basins.	High	High	Medium
6) Erosion control by serving as sedimentation areas and filtering basins, absorbing silt and organic matter and protecting channels and harbors.	High	High	Medium
7) Education and scientific research by providing readily accessible outdoor bio-physical laboratories, living classrooms and vast training and education resources.	Low	Low	N/A
8) Open space and aesthetic appreciation by providing often the only remaining open areas along crowded riverfronts and coastal regions.	Medium	N/A	N/A
9) Sources of nutrients in the freshwater food cycles and nursery grounds and sanctuaries for freshwater fish.	High	N/A	N/A
Sources: Environmental Conservation Law, Article 24, Title 1, Section 24-0105-7 and Tim Miller Associates, Inc., 2005.			

### 3.3.2 Potential Impacts

#### Vegetation

As previously noted in the DEIS, the trees on the project site are generally smaller, second growth deciduous trees existing as successional woodland on embankments along the road corridors bordering the site. Development of Minisceongo Park would result in an overall net reduction in some marginal habitat of successional fields, but would preserve all of the existing riparian habitat associated with the South Branch Minisceongo Creek watercourse (Figure 3.3-4).

Approximately 32.1 acres of the existing old field habitat outside the wetland adjacent area would be disturbed, while all of the 13.4 acres of wetlands and most of the 100-foot adjacent lands around the wetlands would be protected. Approximately 0.25 acres of the 100-foot adjacent area would be graded to accommodate the swale. The land cover in the post-development condition is illustrated in the Landscape Plan in Section 3.10.

The total disturbance represents approximately 32.35 acres (64 percent) of the site. The existing vegetative cover and habitat on the remaining 18.75 acres (35 percent) of the site would not be disturbed by the project. The proposed areas of disturbance are summarized in Table 3.3-5.

Table 3.3-5 Existing and Proposed Approximate Land Coverage				
	Existing		Proposed	
	Acres	Percent	Acres	Percent
Meadowland/brushland/old field *	38.9	73.0	6.5	12.3
Wetlands	13.4	25.1	13.4	25.1
Impervious Areas (includes buildings, driveways, sidewalks)	1.0	1.9	25.5	47.8
Landscaping/re-vegetated areas (includes basin plantings)	0.0	0.0	7.85	14.8
	53.30	100.00	53.30	100.00
* Includes wetland adjacent area Source: Tim Miller Associates, Inc., 2005.				

*Willdenow's sedge (Carex willdenowii var. willdenowii)*

Review of the NHP database search indicates that there are no state protected significant habitat or community types on this property. No state listed rare or endangered plant or animal species have been identified on the site by the NYS DEC<sup>4</sup> or were observed during visits to the site by project consultants.

Wildlife

Due to the small area (53.3 acres) of the site and the suburban landscape that surrounds it, the overall diversity of wildlife in the area is low and dominated by generalist species capable of tolerating human contact. Such species include small mammals like chipmunks (*Tamias striatus*), gray squirrels (*Sciurus carolinensis*), raccoons (*Procyon lotor*), opossums (*Didelphis virginiana*), cottontail rabbits (*Sylvilagus floridanus*), deer mouse (*Peromyscus maniculatus*) and woodchucks (*Marmota monax*). Sensitive species identified by the Natural Heritage Program, including Indiana bat, bog turtle, gray petaltail and Willdenow's sedge were not observed on the project site.

Stream Corridor Impacts

Stormwater emitted from the proposed wet pond on the site may be warmer or cooler during summer and winter than the water of the South Branch at the point of discharge to the creek. Discharges from these basins are subject to state regulations (NYCRR 704.2) that require thermal discharges to surface waters of New York State be capable of retaining the natural seasonal and daily fluctuations within receiving waters. Based on the proposed project shown on the concept plan, all trees west of South Branch Minisceongo Creek and those within the wetlands or the wetlands buffer zone along the eastern side of the stream would not be disturbed by the development. As such, impacts associated with the loss of stream side vegetation, particularly thermal degradation, are not anticipated as a result of this project.

<sup>4</sup> Charlene Houle, NYS DEC Natural Heritage Program, letter dated September 9, 2005.

### Wetland and Buffer Area Disturbances

The proposed project would not disturb any on-site regulated NYSDEC freshwater wetlands or the 100-foot buffer area of the wetlands except for a swale that would extend into the buffer to discharge to the creek.

If the final approved plan for this project includes an impact to greater than one-tenth of an acre of federally regulated wetland, the Corps will be notified via a pre-construction notification (PCN), as required by the current nationwide permits.

### Short-term and Long-term Modifications to Wetlands Functions

The project would not result in any short-term or long-term modifications to the functions of on-site wetlands. Indirect impacts that could result from the Minisceongo Park development would include potential water quality impacts associated with uncontrolled discharge of stormwater runoff. To address this potential impact, a stormwater pollution prevention plan (Appendix C) has been prepared and is described in Section 3.2 of the SEIS.

### Description of Required Permits

The development will require a NYS DEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-0-08-001) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw).

There are no direct impacts proposed to Wetlands A, B and C. A proposed swale that discharges an on-site wet pond would occur within the buffer, thus a NYSDEC freshwater wetland permit and a Rockland County Drainage Agency permit would be obtained.

### Qualitative Analysis of Construction-Related Impacts

Erosion and sedimentation from lands cleared during development can cause indirect impacts to adjacent wetland areas. The elements of the Soil Erosion and Sediment Control to be included with the site plan is described in Sections 3.1 and 3.2 of the SEIS.

Although construction of the project would require significant regrading over most of the central and eastern portions of the site, existing drainage patterns would generally remain the same, with all drainage occurring to the South Branch Minisceongo Creek to the west. However, as a result of additional impervious area, more surface runoff would occur and stormwater basins would be developed to control runoff characteristics. A hydrologic analysis has been prepared to estimate the increase in runoff from the proposed development. Peak rates of surface runoff would significantly increase on both the eastern and western portions of the site if not mitigated.

The proposed development would also increase pollutant loadings found in site stormwater runoff. During construction activities, potential short-term effects from regrading and stockpiling of soil materials can impact surface water quality by the loss of sediment and suspended solids to on-site and downstream waters. Long-term impacts to surface water

quality can result after a development is completed and operational. Increases in levels of pollutants typically associated with residential and commercial land use activities, including stormwater runoff from pavements, rooftops as well as landscaped areas can be expected if not properly mitigated.

### **3.3.3 Mitigation Measures**

Mitigation measures can be adopted which can reduce or avoid potential significant adverse environmental impacts. The applicant indicates that it is committed to minimizing impacts to wetlands attributable to construction and development activities and to reduce or avoid all direct impacts to wetlands and wetland buffer zones. Some of these measures are identified and addressed below, while others are derived indirectly after mitigation of other potential impacts of the project, such as alterations to surface waters, soils or the visual landscape, and are presented in other sections specific to those topics.

#### Stormwater Pollution Prevention Plan

To address impacts to surface water quality, the applicant has indicated that stormwater quality measures have been engineered in accordance with NYSDEC requirements. The designs would incorporate the standards presented in the latest New York State Stormwater Management Design Manual (August 2008). A stormwater detention basin with forebays would be created on the site. The plan is presented in Appendix C of the SEIS and described in Section 3.2 of the SEIS.

The water quality basin would include wetland plantings selected for enhancing water quality improvements and wildlife benefits. Although not proposed as wetland mitigation, these created ponds would provide comparable functions and values as some of the wetlands in the area, and would generally compensate for any minimal impacts to these wetlands. All water discharged from the water quality basins would flow to the South Branch Minisceongo Creek, similar to the pre-development drainage pattern of the site.

#### Erosion and Sediment Control Plan

Clearing limit lines would be established in the field on the site prior to commencing any construction activities (Chapter 3.1). No significant trees in healthy condition beyond these limits would be disturbed. These limits would be delineated by silt fencing or similar methods. The establishment of disturbance limit lines reduces potential impacts during construction activities. In particular, the clearing limit lines will protect any potential disturbances to the on-site NYSDEC regulated wetlands and the associated 100-foot buffer.

A primary objective of an ESC plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from reaching the downgradient wetlands and watercourses. Measures to be used are described in Sections 3.1 and 3.2 of the SEIS. Erosion and sediment control measures would be placed in accordance with the specifications to be submitted with the detailed site plan. Perimeter silt fencing would be installed prior to any other construction activities and the development of major soil erosion and sedimentation controls such as runoff swales and a temporary sedimentation basin would be completed prior to the commencement of significant land clearing operations. The future stormwater basin that acts as temporary sediment traps during the construction phase would be over-excavated initially to provide extra volume for sediment entrapment.

Temporary soil coverings such as mulching, seeding, or the placement of erosion control matting would be established and maintained in good condition and left in place until permanent vegetative cover is established.

The construction contractor will be responsible for installing all sediment and erosion control measures and maintaining them throughout the entire construction process. These measures will be monitored during construction by the project engineer, and representatives of the Towns.

The proposed ESC plan would minimize the area of soil exposure at any time to the greatest extent practicable in accordance with the conditions of the NYS DEC SPDES general permit for stormwater control. Controls specified on the ESC plan would be developed specifically for this project to provide both temporary controls during the construction period and permanent controls to be in place and functioning at the completion of construction.

#### Implementation of a Landscape Plan

A conceptual landscape plan is provided as part of this SEIS. The project includes lawn and landscape and stormwater basin plantings that would include a mixture of native and ornamental species. While less valuable to wildlife compared with the old field habitat, the lawns and landscaped areas created by the proposed development would provide limited forage for smaller mammals and birds that can survive in a more suburban environment.